

between a contact on the ball grid array electronic package and a solder ball by means of a first joining medium and between said solder ball and a substrate contact arranged on the substrate by means of a second joining medium and wherein the contact arranged on the substrate is substantially quadrilateral in shape and has at least one transverse dimension greater than a diameter of said solder ball;

in which said substrate contact is adapted for X-ray inspection by directing X-Rays through said electronic package to illuminate said solder ball and said contact, so that a bad joint shows in said X-rays as a round image of said solder ball and a good joint, in which said solder ball flows into said substantially quadrilateral shape, shows in said X-rays as a quadrilateral image.

14. (Amended) A substrate as claimed in claim 13, wherein the contact arranged on the substrate is substantially square in shape; so that a good joint shows in said X-rays as a square shape.

Add new claims 17 - 19 as follows:

17. A substrate as claimed in claim 13, wherein said contact has a thickness less than a thickness of said

solder ball and a surface adapted for flowing said solder throughout said transverse dimension, so that in a good joint material from said solder ball flows to cover the transverse extent of said contact and produces an image different from a corresponding image of a bad joint.

18. A substrate as claimed in claim 17, wherein said surface adapted for flowing said solder throughout said transverse dimension is substantially planar, so that solder flow is unimpeded.

19. A substrate as claimed in claim 13, wherein said at least one transverse dimension is a diagonal of said quadrilateral that is greater in length than a corresponding diameter of said solder ball.